CLAIMS

1. Frequency allocation scheme for optical channels transmitted via a -WDM transmission line with alternating left side and right side filtering for adjacent channels

- Having channels with alternating channel spacing of A and B, where A<B,

- Having two sets of channels orthogonally polarized.

2. Frequency allocation scheme according to claim 1 where the two set s of orthogonal polarized channels are shifted versus each others by a value $A/2 + \delta_{Filter} \cdot \pm 20\%$

3. Transmission system with a transmitter function, a transmitting fiber and a receiver function:

- The transmitter function comprising polarized light sources (1), with modulators (2) and a wavelength multiplexer (3)

- The receiver function comprising at least a polarization demultiplexer (11), a wavelength demultiplexer (5), filters and electrical receivers.